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Wrist Interactive Device for Wearable PC

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Contractor's Progress, Status and Management Report -- Monthly Progress Report

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1 March through 31 March 2000

Date of Report: 7 April 2000

Wrist Interactive Device for Wearable PC
SBIR Phase II Topic N95-137
Contract No. N00421-97-C-1293
Dollar Value $1,708,653

ViA Inc.
12550 West Frontage Road
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Sponsor
Charles D. Caposell
Naval Air Systems Command
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1. Progress & Plans

Hardware

Phase 3/4 Boards

The rigid-flex board housing the CPU and display chip sets is being built by the board house. Due to an error they performed in the tooling, the new expected delivery is now in the second week of May.

RF

The Phase 3 Bluetooth radio boards have been verified and are being used for driver and software development. Design on the Phase 4 RF boards will begin in April.

Digianswer has communicated to us that they will have samples of their new Bluetooth PC cards by July. These will be considerably more affordable than their Demo cards, of which we have been using one for development purposes. We hope to be able to obtain the cards earlier than July.

Audio

Andrea Electronics has been working with one of our Phase 2 boards to port their software to our DSP. This work is almost completed. They have received our preliminary design files for the plastic enclosure and are modifying them with suggestions for the mounting of the microphones and speaker to optimize the acoustic performance of the audio module.

Optics

No work was performed on the WID's optics system in the month of March.

Battery System

The development board for the battery system was designed and built. We are in the process of populating it so as to begin testing the Panasonic Li-ion batteries that we are planning to use in the final device.

Mechanical Design

The mechanical design tasks remaining to be completed are:

- On/Off switches mounting in main case
- Completion of light box design
- Mounting of lens and finalization of plastic case
- Audio module case
- RF module case
- Battery case, battery charger, and attachment to battery module on wrist band
- Wrist band clasp

These tasks have been scheduled and are expected to be completed by early June.

Software

Bluetooth Drivers

An early implementation of the WID's display and communication drivers was successfully demonstrated. It broadcasts over our Bluetooth radios either a bouncing ball or a screen capture of whatever is displayed on the host computer.

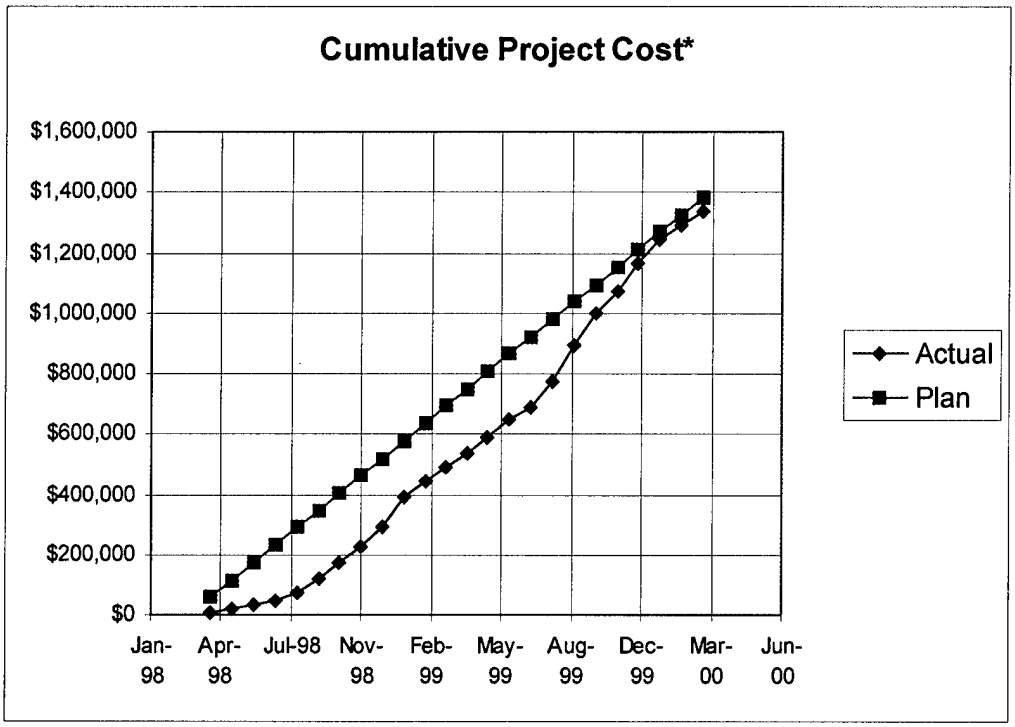
Work is progressing to render the Bluetooth drivers under Windows CE robust and well engineered. A similar goal is being pursued on the Windows 98, host side.

Audio Drivers

No significant work was done toward an audio driver for CE in the month of March. This is partly due to the fact that we are waiting for Andrea Electronics to finish porting their directional mic array software to our DSP.

High-Level CE Software

No work was done in the month of March on the high-level CE software.



***without G&A and fee**

2. Project Cost

Cost incurred for the period and total cost, without G&A and Fee:

Current Month's Cost*	Cumulative Cost
$43,603	$1,333,734

* Current month cost is 1 February through 29 February

Person-hours for the period and cumulatively:

Current Month's Hours	Cumulative Hours
491	16,851

3. Schedule and Staffing

The schedule for the final delivery may have slipped a month due to the following reasons:

- DARPA directed us to suspend work for a couple of weeks in February while the issue of which optics system to use was resolved.
- The board manufacturer made an error in the tooling due to which the main CPU & Display boards will now be delivered in the first half of May. This is two months after the initially expected date for these Phase3 and 4 boards.
- Delivery of Digianswer PC cards is expected in July.

Software work has continued but it will not be possible to complete some porting tasks until the new boards are built and populated. Based on the information available to us now we expect a July delivery.

Staffing has changed somewhat. Bill Meuleners has been moved to another DARPA project, the design of the case for the ViA Motion computer. Therefore, ViA has retained the services of a very senior independent contractor and PE, Bill Siebert, with ten years of specific experience in mechanical design and twenty additional years of experience in electronic and systems design to complete the mechanical design tasks for the WID. We are very excited to have Mr. Siebert working on this project.

The rest of the team is unchanged, except for the fact that the long hardware delivery lead times are allowing us, and in some cases are forcing us, to divide our time between different projects without any additional impact on the WID schedule. It is important to realize that the lower labor hours charged to the project in March and in the coming months are solely due to this fact and not to any decrease in ViA's commitment to complete the WID project as quickly and as thoroughly as promised.

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